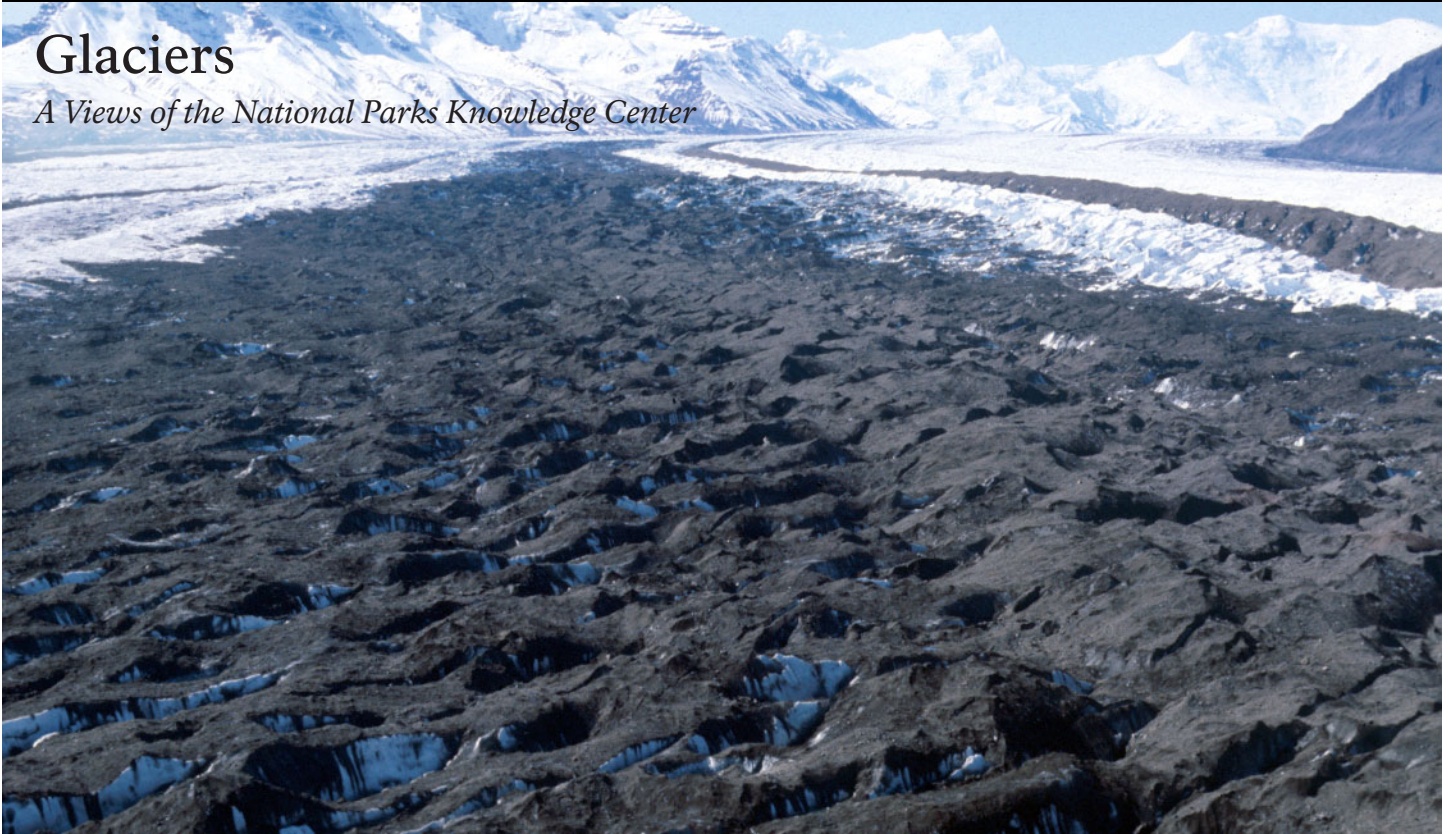




# Glaciers

*A Views of the National Parks Knowledge Center*



**G**laciers are powerful sculptors of the natural landscape. These flowing bodies of ice can carve wide valleys, transport massive volumes of rock debris, and create large moraines. They truly are one of nature's great landscape architects.

This knowledge center delves into the basic questions of what are glaciers, where are they found, how do they form, and how do they move. You will also discover the types and parts of glaciers. Once these basics are mastered, the knowledge center examines ice ages, the different types of landforms that may result from glaciation, and how scientists monitor glaciers. Throughout the knowledge center, examples are shown from our national parks.

National parks are also highlighted as case studies to illustrate how glaciers have created the park landscape and how different parks provide excellent examples of the various features of glaciation.

## Features

This knowledge center provides basic information on glaciers, glacial geomorphology, and monitoring protocols for glaciers. Here is a list of some of the different features:

- **Introduction to glaciers**  
This section explores the basics about glaciers: what are they, where are they, how they form, how they move, different types of glaciers, and the parts of a glacier.
- **Ice ages**  
This section explores past climate changes that have resulted in worldwide glaciation. It also provides an introduction to the meaning and causes of climate changes.
- **Nature's landscape architects**  
This section explores how glaciers can be mighty sculptors of landscapes and illustrates many of the features glaciers create.
- **Monitoring glaciers**  
This section addresses the benefits and hazards of glaciers and why monitoring them is important. It also explores the methods used to monitor glaciers with special emphasis to studies in national parks.

Discover glaciers in this interactive knowledge center. You'll learn about medial moraines, such as this one on Nabesna glacier in Wrangell-St. Elias National Park and Preserve in Alaska.

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*"... glaciers have sculpted mountains and carved out valleys, and they continue to flow and shape the landscape in many places today."*

— National Snow and Ice  
Data Center  
<http://nsidc.org/glaciers/information.html>

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You can learn about the different parts of a glacier, how those parts vary, and how those parts cause a glacier to flow.



*“There are many different types of glaciers and many highly detailed classification systems, but glaciers can most easily be differentiated on the basis of topography and temperature. Glaciers are either unconstrained by topography, or the topography actually constrains the glacier.”*

— Glaciers Knowledge Center  
On the different types of glaciers

#### • Challenge your understanding

This section is devoted to seeing how well you understand glaciers. It also provides teaching standards, class exercises, and ideas for bringing glaciers “into the classroom”.

There are Web links throughout the knowledge center that provide additional information for teachers and students that want a greater challenge.

#### Uses

This knowledge center can be used in a variety of applications. Teachers can use this knowledge center to educate students about glaciers and glacial landscapes, and introduce students to our national parks. Park personnel can use the knowledge center as a primer on glaciers for staff training and public education and interpretation. The public can use this knowledge center to learn more about glaciers and where glaciers and glacial landscapes are found throughout our national parks.

#### Teaching Standards

##### Standard A - Scientific Inquiry

Students can follow a series of experiments conducted about glacial movement.

##### Standard E – Science and Technology

Students use an interactive computer program to access information on glaciers.

#### Partners

This knowledge center was developed with the help of the Geologic Resources Division (GRD) of the National Park Service. The Natural Resource Information Division (NRID) and GRD would like to express special thanks to Katie KellerLynn for her dedication to working on this knowledge center.

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